WHAT IS CLAIMED IS

1. An electrode active material comprising a compound of the formula

$$A_{a-x}M_bP_{1-x}Si_xO_4$$

wherein

(a) A is selected from the group consisting of Li, Na, K, and mixtures thereof, where $0 < a < 1$ and $0 \leq x \leq 1$;

(b) M comprises one or more metals, comprising at least one metal which is capable of oxidation to a higher valence state, where $0 < b \leq 2$; and

wherein M, a, b, and x are selected so as to maintain electroneutrality of said compound.

2. An electrode active material according to Claim 1, wherein $0.1 \leq a \leq 0.9$.

3. An electrode active material according to Claim 1, wherein $1.0 \leq b \leq 1.5$.

4. An electrode active material according to Claim 1, wherein M comprises a + 3 oxidation state transition metal.

5. An electrode active material according to Claim 1, wherein M comprises a + 2 oxidation state transition metal.

6. An electrode active material according to Claim 1, wherein M is $M'_cM''_d$, wherein M' comprises one or more transition metal from Groups 4 to 11 of the Periodic Table; M" is

at least one element selected from Group 2, 12, 13, or 14 of the Periodic Table; and c + d = b.

7. An electrode active material according to Claim 6, wherein $0 < (c+d) \leq 2$.

8. An electrode active material according to Claim 7, wherein $1.0 \leq (c+d) \leq 1.5$.

9. An electrode active material according to Claim 4, wherein M' is selected from the group consisting of Ti, V, Cr, Mn, Fe, Co, Ni, Cu and mixtures thereof.

10. An electrode active material according to Claim 4, wherein M'' is selected from the group consisting of Mg, Ca, Zn, Sr, Pb, Cd, Sn, Ba, Be, Al, and mixtures thereof.

11. An electrode active material according to Claim 1, wherein A comprises Li.

12. An electrode active material comprising a compound of the formula

$$Li_aM'_cM''_dPO_4$$

wherein

(a) $0 < a < 1$;

(b) M' comprises one or more metals, comprising at least one metal which is capable of undergoing oxidation to a higher valence state, where $c > 0$;

(c) M'' comprises one or more non-transition metals, where $d > 0$; and

wherein $0.8 \leq (c + d) \leq 1.5$, and M', M", a, c, and are selected so as to maintain electroneutrality of said compound.

13. An electrode active material according to Claim 12, wherein M' is a +2 oxidation state transition metal.

14. An electrode active material according to Claim 13, wherein M' is selected from the group consisting of Ti, V, Cr, Mn, Fe, Co, Ni, and Cu.

15. An electrode active material according to Claim 12, wherein M" is a +2 or +3 oxidation state non-transition metal.

16. An electrode active material according to Claim 15, wherein M" is selected from the group consisting of Mg, Ca, Al, B, and mixtures thereof.

17. An electrode active material according to Claim 12, wherein M'' is a +3 oxidation state transition metal.

18. An electrode active material according to Claim 17, wherein M'' is selected from the group consisting of V, Cr, Ti, Mn, and mixtures thereof.

19. An electrode active material comprising a compound of the formula

$A_aM^1_eM^2_fM^3_gPO_4$

wherein

(a) A is selected from the group consisting of Li, Na, K, and mixtures thereof, where $0 < a < 1$;

(b) M^1 is a +2 oxidation state transition metal, where $e > 0$;

(c) M^2 is a +2 oxidation state non-transition metal; and

(d) M^3 is a +3 oxidation state non-transition metal; and

wherein $a + 2e + 2f + 3g = 3$.

20. An electrode active material according to Claim 19, wherein M^1 is selected from the group consisting of Fe, Co, Ni, Ti, V, Cr, Mn, and mixtures thereof.

21. An electrode active material according to Claim 19, wherein M^2 is selected from the group consisting of Be, Mg, Ca, Sr, Ba, and mixtures thereof.

22. An electrode active material according to Claim 19, wherein M^3 is selected from the group consisting of B, Al, Ga, In and mixtures thereof.

23. An electrode active material according to Claim 19, wherein $0 < (e + f + g) \leq 2$.

24. An electrode active material according to Claim 23, wherein $0.8 \leq (e + f + g) \leq 1.5$.

25. An electrode active material according to Claim 24, wherein $1.0 \leq (e + f + g) \leq 1.5$.

26. An electrode active material comprising a compound of the formula

$$A_{a+x}M'_{1+(x/2)}M''_{(1-a)/2}P_{1-x}Si_xO_4$$

wherein

(a) A is selected from the group consisting of Li, Na, K, and mixtures thereof, where $0 < a < 1.0$ and $x = 0$;

(b) M' comprises one or more +2 oxidation state transition metals; and

(c) M" comprises one or more +2 oxidation state non transition metals;

wherein M', M", a, and x are selected so as to maintain electroneutrality of said compound.

27. An electrode active material according to Claim 26, wherein A is Li.

28. An electrode active material according to Clam 26, wherein M' is selected from the group consisting of Ti, V, Cr, Mn, Co, Fe, Ni, Cu, and mixtures thereof.

29. An electrode active material according to Claim 26, wherein M" is selected from the group consisting of Be, Mg, Ca, Sr, Ba, and mixtures thereof.

30. An electrode active material according to Claim 29, wherein M" is selected from the group consisting of Be, Mg, Ca, Sr, Ba, and mixtures thereof.

31. An electrode active material comprising a compound of the formula

$$A_{a+x}M'_{1+(x/2)}M''_{(1-a)/3}P_{1-x}Si_xO_4$$

wherein

(a) A is selected from the group consisting of Li, Na, K, and mixtures thereof, where $0 < a < 1.0$ and $x = 0$;

(b) M' comprises one or more +2 oxidation state metals, comprising at least one metal which is capable of undergoing oxidation to a higher valence state; and

(c) M" comprises one or more +3 oxidation state metals;

wherein M', M", a, and x are selected so as to maintain electroneutrality of said compound.

32. An electrode active material according to Claim 31, wherein A is Li.

33. An electrode active material according to Claim 32, wherein M" comprises a + 3 oxidation state transition metal.

34. An electrode active material according to Claim 33, wherein M" is selected from the group consisting of Ti, V, Cr, Mn, and mixtures thereof.

35. An electrode active material according to Claim 31, wherein M" is a + 3 oxidation state non-transition metal.

36. An electrode active material according to Claim 35, wherein M" is selected from the group consisting of B, Al, Ga, In, and mixtures thereof.

37. An electrode active material according to Claim 31, wherein M' is selected from the group consisting of Ti, V, Cr, Mn, Fe, Co, Ni, Cu and mixtures thereof.

38. An electrode active material according to Claim 37, wherein M' further comprises a +2 oxidation state non transition metal.

39. An electrode active material according to Claim 38, wherein said non-transition metal is selected from the group consisting of Be, Mg, Ca, Sr, Ba, Ra, and mixtures thereof.

40. An electrode comprising a binder; an electrically conductive carbonaceous material; and an active material of Claim 1.

41. An electrode comprising a binder; an electrically conductive carbonaceous material; and an active material of Claim 12.

42. An electrode comprising a binder; an electrically conductive carbonaceous material; and an active material of Claim 19.

43. An electrode comprising a binder; an electrically conductive carbonaceous material; and an active material of Claim 26.

44. An electrode comprising a binder; an electrically conductive carbonaceous material; and an active material of Claim 31.

45. A lithium battery comprising:

(a) a first electrode comprising an active material according to Claim 1,

(b) a second electrode which is a counter-electrode to said first electrode; and

(c) an electrolyte between said electrodes.

46. A lithium battery of Claim 45, wherein said first electrode is a cathode, and said second electrode is an insertion anode.

47. A lithium battery of Claim 46, wherein said second electrode comprises a metal oxide, metal chalcogenide, carbon, graphite and mixtures thereof.

48. A lithium battery comprising

(a) a first electrode comprising an active material according to Claim 12,

(b) a second electrode which is a counter-electrode to said first electrode; and

(c) an electrolyte between said electrodes.

49. A lithium battery comprising

(a) a first electrode comprising an active material according to Claim 19,

(b) a second electrode which is a counter-electrode to said first electrode; and

(c) an electrolyte between said electrodes.

50. A lithium battery comprising

(a) a first electrode comprising an active material according to Claim 26,

(b) a second electrode which is a counter-electrode to said first electrode; and

(c) an electrolyte between said electrodes.

51. A lithium battery comprising

(a) a first electrode comprising an active material according to Claim 31,

(b) a second electrode which is a counter-electrode to said first electrode; and

(c) an electrolyte between said electrodes.